

Select Committee on Budgetary Oversight

Opening Remarks by Professor Edgar Morgenroth, Dublin City University Business School

8th May 2018

Good afternoon and thank you for inviting me to appear before the Committee today.

In my brief opening statement I will outline the objective of the ESRI study on “The Environmental Impact of Fiscal Instruments”, the approach used and the findings, particularly in relation to taxation of motor fuels. I was the lead author of this report, which was completed while I was still at the ESRI.

The research, which was funded by the Environmental Protection Agency, sought to assess to what extent fiscal instruments in Ireland, and particularly those that are not specifically aimed at achieving environmental goals, have environmental impacts. The premise for this work was that while the fiscal implications of taxes, tax expenditures and subsidies are usually well understood, other potential impacts are sometimes ignored. This is important given that the fiscal system, by adjusting prices, can play a significant role in changing behaviour. Overall the findings confirm that a large number of fiscal measures have some effect on at least one environmental domain, and that specific tax changes can make a significant contribution to achieving environmental objectives.

The approach used in the analysis was to first conduct a simple assessment of potential environmental impacts of a large number of existing and potential fiscal instruments. This considers the incentives that a particular measure set, the likely resulting behaviour and the consequent expected environmental impact.

The environmental impacts considered cover the main domains of climate change, air quality, water quality and land, but did not include resource intensity. In total 142 measures were considered and for these 246 impacts are identified which implies that on average measures impact on more than one domain. The most widespread impact is on climate change emissions with 98 measures having impacts. The least common impact is on water with just 23 measures. Just over half the measures were assessed to have a likely positive impact.

The nature of the initial assessment of environmental impacts of the 142 measures does not identify the size of the environmental impact. It also does not provide a definitive assessment of the effects. To achieve this a more thorough analysis is necessary. Therefore, a more thorough analysis was conducted for four case studies, including the difference in excise rates on diesel and petrol.

The choice of case studies was influenced by the importance of specific sectors in generating environmental impact and by data availability. Agriculture and Transport are the two largest contributors by sector to overall GHG emissions in 2015, so measures affecting these were

chosen. A lack of data on the number and type of company cars prevented us from analysing the tax treatment of company cars.

It is important to note that the changes in the tax system in Ireland introduced in 2008 have had a significant effect on CO₂ emissions as they incentivised the purchase of more efficient vehicles (from a CO₂ perspective at least). In 2009 just 13% of new cars registered were in the lowest emission category (Category A, less than 120g CO₂/km). By 2016 this had increased to 78%. However, the rising stock of new vehicles was accompanied by longer travel distances and somewhat larger cars, so that on average the efficiency improvements have been more modest than one might expect.

Research has shown that the increasing 'dieselisation' due to the tax changes introduced in 2008 resulted in lower reductions in NO_x emissions than would otherwise have been the case. Furthermore, diesel vehicles produce significantly high levels of particulates (PMs) impacting significantly on air quality. This and the vehicle emissions testing scandal have raised the awareness of these emissions. The higher levels of emissions compared to those claimed by manufacturers combined with growing traffic volumes have resulted in poor air quality in many European cities. As a consequence, and given the need to meet EU air quality regulations, many cities are now considering diesel bans or at least bans of diesel vehicles that do not meet the Euro 6 standard.

In order to assess the potential impact of raising the excise rate for diesel to that of petrol a simple simulation was conducted. This involved assessing the response of motorists to a change in the price of diesel resulting from excise equalisation, which was based on estimates of the price responsiveness from the academic literature. These calculations take the current composition of the vehicle stock, which have been significantly determined by the tax changes introduced in 2008 as given (i.e. the results would be very different if they were calculated using the 2008 car stock as a basis). The simulations take also into account that some motorists might switch to petrol vehicles.

The analysis shows quite broadly that an equalisation of excise rates of petrol and diesel to the current rate for petrol would reduce fuel consumption, drive down vehicle-related emissions and provide a revenue boost to the exchequer. The simulation results suggest that NO_x emissions would be reduced by 3.8% and PM emissions would be reduced by 4.1%. Tax revenue could increase by over €500 million. It is important to note that these simulation results are not precise predictions, but indicate the broad magnitude of the effect holding other factors fixed.

Overall the analysis shows that the environmental impact of the fiscal system should be studied more carefully as some measures have significant environmental costs. The appropriate reform of these measures could make a significant contribution to reducing Ireland's GHG emissions and reduce local pollution.

Thank you again and I am happy to take any questions.